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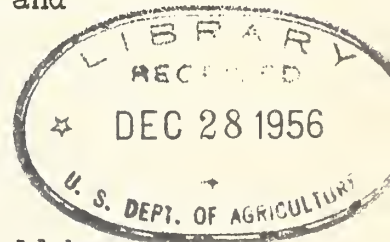
NATIONAL TECHNICAL WORK-PLANNING CONFERENCE OF THE COOPERATIVE SOIL SURVEY
April 30 - May 5, 1956

Report of the Committee on Soil Association and Problem Area Maps

The committee chose to limit its considerations to the problems involved in preparing State land resource area maps adequate for the Department's conservation needs estimates. Land resource area maps were considered to be generalized soil maps (soil association maps) with additional separations based on significant differences in certain other land features which can be identified and mapped. Such land resource area and soil maps will have many additional uses and should be designed to meet the needs of all agencies in the cooperative soil survey, as well as of other groups and individuals. Cooperation among interested agencies in each state is essential for the best results.

The committee proposes that the State land resource area maps have the following characteristics:

1. Resource area boundaries should be sufficiently accurate that the delineations for individual counties can be used for general agricultural planning at the county level. This means that state maps are, in effect, an assemblage of general county maps.
2. The map units should be organized into not more than about 10 groups designed to have maximum agricultural significance to planning at the state level. This grouping should not exclude other possible interpretive groupings.
3. Soil boundaries are to join across state lines.
4. Map units should be phases or associations of phases of great soil groups or of taxonomic units of Category V of the fourth or fifth approximation of the new soil classification system.
5. There should be two legends or a combination legend designed (a) to define the map units pedologically in terms of proportions and distribution pattern of the component phases of taxonomic units, and (b) to define the map units in practical descriptive terms for those dealing with objectives involving soil use and management.
6. The compilation scale should be 1:500,000.
7. The publication scale should be 1:1,000,000.
8. The minimum size of areas on the 1:1,000,000 scale map should be at least one-fourth inch across for generally circular areas, and at least one-eighth inch across for long, narrow areas.



The committee further proposes:

1. That the Arkansas, Red and White River Watershed soil map (1:1,000,000, prepared by the Division of Soil Survey and cooperating agencies, 1951) be considered a general model for (a) compilation and publication scale, (b) cartographic and categorical level, and (c) concept of the mapping unit.
2. That available soil and problem area maps be exploited fully. The kind of map proposed makes this possible.
3. Where soils information is lacking, geology, vegetation, topographic, and other maps should be exploited fully.

We of the committee recommend that this committee be continued with the expectation especially that it serve in the capacity of evaluating accomplishments as the job is carried on toward the consumation of a national general land resource map.

Committee Members

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The following notes were recorded during the discussion of the Committee on Soil Association and Problem Area Maps:

Orvedal: In carrying out this project, we should strive to keep the level of generalization about the same throughout the United States.

Rogers: There appears to be a decided difference in levels of generalization on the Iowa problem area map. Which is the desirable level for this project?

Orvedal: I believe the level of generalization is uniform throughout the Iowa map. The low number of boundaries in that part representing northern and western Iowa is expressive of a more uniform soil pattern.

We need to find out how to describe levels of this kind of generalization. The kind of detail desired in general soil maps can't be described, but we do recognize it when we see it.

Lyford: Apparently we draw the delineations for these maps by "cutting and trying" until the product approximates closely what we want.

Knox: If we are not careful this job will appear to be an SCS project. The Experiment Stations want maps of this kind and we should be sure that the project is maintained in a cooperative status.

Kellogg: We need a good general soil map of the United States. As the result of the world soil map group we today have manuscript soil maps of many foreign areas that are better than the general soil maps that exist of the United States. We should use knowledge gained from the world soil map group in making the U. S. map.

There is not a uniform understanding of what we mean by "land resource areas." It would be nice if we could show all features of land resources. It is important to keep soil boundaries separate from other land resource boundaries. The soil boundaries probably should be solid lines; and subdivisions due to differences in water resources, climate, and types of farming could then be shown by dashed or dotted lines. We should be able to keep the soil mapping units well defined nationally, but the other boundaries will not be so easy to control. In some places, type of farming and use can be kept separate, but ground water and climate may not always be separate. In one place we may know there is ground water available, and in another we may know it is not available, but in another place we may be unable to determine whether or not it is available.

"Problem area" is not a good name for these maps because no one likes to be considered as being in a "problem" area. Neither is "soil association," except for soil scientists. Many have the idea that soil associations are made up of similar soils; whereas, more times than not, they consist of quite unlike soils. The map we are seeking is basically a general soil map with additional separations to show differences in resource value within a soil map unit.

Orvedal: I favor "land resource area" for the name of this kind of map. By not using "soil" in the name, we will avoid having this generalized map, when completed, misconstrued as indicating that all of the United States has been mapped by a detailed soil survey.

Simonson: Emphasis should be put on the kind of map we are making. A soil association is a geographic area and not a grouping of similar soils. Some have this latter idea.

The universe for a map may be a farm, a county, a state, or the nation; and an assembly of maps of a lower universe for a higher one may not be adequate for the latter. Incidentally, it seems as though Category V of the fourth approximation is too high a level around which to organize and name mapping units for county maps.

Orvedal: This assembly of county maps is required for the conservation needs program. It is hoped that this same map can serve as a state level map by organizing the map units into a smaller number of broader units to be represented by distinguishing colors. If this turns out to be impractical, we will still have the foundation on which a satisfactory state map can be built.

Max J. Edwards, Recorder

